

MEASURING THE BINARY FRACTION OF PLANETARY NEBULA CENTRAL STARS IN THE KEPLER FIELD

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We will determine the fraction of planetary nebulae (PN) in the Kepler field that have central stars with close binary companions. Ground-based measurements of the binary rate of PN central stars is about 20% whereas the observational evidence based on a diverse set of arguments is that this fraction should be 50-80%. The observations are so challenging from the ground that we cannot say whether there is a conflict or not. Kepler's unique ability to measure small photometric variations will allow an accurate estimate of binary central stars for the PNe in the field of view. The question of binary frequency has wide-ranging consequences that impact stellar and galactic evolution.